46

(2) INFORMATION FOR SEQ ID NO:1:

RAW SEQUENCE LISTING PATENT APPLICATION US/08/934,254

DATE: 03/26/98 TIME: 18:19:17

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This Raw Listing contains the General Information Section and up to the first 5 pages.

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1
                                       SEQUENCE LISTING
 2
 3
            General Information:
    (1)
 4
 5
          (i) APPLICANT: Thomas, Terry L.
 6
 7
 8
         (ii) TITLE OF INVENTION: PRODUCTION OF GAMMA LINOLENIC ACID BY A
 q
                                   DELTA 6-DESATURASE
10
11
        (iii) NUMBER OF SEQUENCES: 27
12
         (iv) CORRESPONDENCE ADDRESS:
13
14
               (A) ADDRESSEE: Scully, Scott, Murphy & Presser
15
               (B) STREET: 400 Garden City Plaza
16
               (C) CITY: Garden City
17
               (D) STATE: New York
18
19
               (E) COUNTRY: United States
20
               (F) ZIP: 11530
21
          (v) COMPUTER READABLE FORM:
22
23
               (A) MEDIUM TYPE: Floppy disk
24
25
               (B-) COMPUTER: IBM PC compatible
               (C) OPERATING SYSTEM: PC-DOS/MS-DOS
26
27
               (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
28
         (vi) CURRENT APPLICATION DATA:
29
30
31
               (A) APPLICATION NUMBER:
32
               (B) FILING DATE:
33
               (C) CLASSIFICATION:
34
35
       (viii) ATTORNEY/AGENT INFORMATION:
36
37
               (A) NAME: Presser, Leopold
38
               (B) REGISTRATION NUMBER: 19,827
39
               (C) REFERENCE/DOCKET NUMBER: 8383ZYXWVU
40
         (ix) TELECOMMUNICATION INFORMATION:
41
42
               (A) TELEPHONE: (516) 742-4343
43
               (B) TELEFAX: (516) 742-4366
44
               (C) TELEX: 230 901 SANS UR
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47 48	(i) SI	EQUENCE CHAI	RACTERISTIC	5:			
49							
50		(A) LENGTH:	-	pairs			
51		(B) TYPE: nu					
52		(C) STRANDEI					
53		(D) TOPOLOGY	7: linear				
54							
55	(ii) M(OLECULE TYPE	E: DNA (gend	omic)			
56							
57	(ix) Fl	EATURE:					
58							
59		(A) NAME/KE					
60		(B) LOCATION	1: 2002308	31			
61							
62	(xi) SI	EQUENCE DESC	CRIPTION: SI	EQ ID NO:1:			
63							
64	GCTAGCCACC	AGTGACGATG	CCTTGAATTT	GGCCATTCTG	ACCCAGGCCC	GTATTCTGAA	60
65							
66	TCCCCGCATT	CGCATTGTTA	ATCGTTTGTT	CAACCATGCC	CTGGGTAAAC	GTTTAGACAC	120
67							
68	CACCTTGCCA	GACCACGTTA	GTTTGAGTGT	TTCCGCCCTG	GCGGCCCCGA	TTTTTTCCTT	180
69							
70	TGCGGCTTTG	GGCAATCAGG	CGATCGGGCA	ATTGCGTTTG	TTTGACCAGA	CTTGGCCCAT	240
71							
72	TCAGGAAATT	GTCATTCACC	AAGACCATCC	CTGGCTCAAT	TTACCCCTGG	CGGATTTATG	300
73							
74	GGATGATCCG	AGCCGAATGT	TGATCTATTA	CCTACCGGCC	CACAGTGAAA	CGGATTTAGT	360
75							
76	AGGCGCAGTG	GTGAATAATT	TAACGTTGCA	ATCTGGGGAC	CATTTAATAG	TGGGACAAAA	420
77			~~~~				
78	ACCCCAACCC	AAGACCAAAC	GGCGATCGCC	TTGGCGCAAA	TTTTCCAAAC	TGATTACCAA	480
79		T1 T01 44 45	1 mamaa 1 1 a 1	GGTG1 T1 TGG	ama amammam		546
80	CCTGCGGGAG	TATCAGCGGT	ATGTCCAACA	GGTGATATGG	GTGGTGTTGT	TTTTATTGTT	540
81	a	amaaaaa aam	ma. mam. aam		aa.m.mma	~~~~~~~~	
82	GATGATTTT	CTGGCCACCT	TCATCTACGT	TTCCATTGAT	CAACATATTG	CCCCAGTGGA	600
83	CCCCTTCT T	тттааатаа	GG3. MG3. MM3. G	ааааааааа	GGG	A COMOCOCO	
84	CGCGTTGTAT	TTTTCCGTGG	GCATGATTAC	CGGGGCCGGT	GGCAAGGAAG	AGGTGGCCGA	660
85	* * * OTTOGGGG	а мата та та	3.3.0M3.MMC3.C	A CITICOTO A TIC	» Ma » Maaaaa	GGGGGGGGGT	700
86	AAAGTCCCCC	GATATCATCA	AAGTATTCAC	AGTGGTGATG	ATGATCGCCG	GGGCGGGGT	720
87	CAMMCCMAMM	таттъ та са са	ma amaa amaa		GGGA GEGGGE	mm s cmc s cmm	780
88	GATTGGTATT	TGTTATGCCC	TACTGAATGA	TTTCATCCTT	GGCAGTCGCT	TTAGTCAGTT	700
89	mmmaa a maaa	CCC A A CITIER C	ааахтаааах	masasmasma	x mmmamaaaa	Мааааааа хаш	040
90	TTTGGATGCG	GCCAAGTTAC	CCGATCGCCA	TCACATCATC	ATTTGTGGGC	1 GGGGGGAGT	840
91	C A C C A TT C C C C	30030000330	A CIMITIA A MINICIA	aayaaaaa m	C A A A TITO COTO CO	maamaaaaa	
92	GAGCATGGCC	ATTATTGAAG	AGTTAATTCA	CCAGGGCCAT	GAAATTGTGG	TAATUGAAAA	900
93	003M30303M	3 3 maammaa	подъпъсосс	addamadama	aaaamaaaaa	maammamaaa	0.00
94	GGATACAGAT	AATCGTTTCT	TGCATACGGC	CCGCTCCCTG	GGGGTGCCCG	IAATTGTGGA	960
95 96	CONTROCOCO	CTAGAAAGAA	ССФФССССФС	CCCCA A TIATIC	A ACCCACCCC	A A C C C A M M C M	1020
96 97	GGATGCCCGC	CIAGAAAGAA	CGIIGGCCTG	CGCCAATATC	AACCGAGCCG	AAGCCATIGT	1020
97 98	COTTOCOONO	AGCGACGACA	CCCMMy y Cmm	CCA A AMMCCC	CITA A CITICO A	A C C C C A T C C C	1080
<i>)</i> U	GGIGGCCACC	AGCGACGACA	CCGITARCIT	COUNTIECE	CIMACIGUEA	AGGCGW LCGC	1000

RAW SEQUENCE LISTING PATENT APPLICATION US/08/934,254

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	•													CEM. CO.	1106
100 101	CCCTA	GCCTG	CCAG	rggtgt	TGCG1	TGCC	A GG	ATGC	CCAG	TTT	AGCCT			<i>SET: S24</i> GCAGGA	1140 1140
102 103	AGTAT	TTGAA	TTTG	AAACGG	TGCTI	TGTC	C GG	CGGA	ATTG	GCC!	ACCT	ATT (CCTT	rgcggc	1200
104 105	GGCGG	CCCTG	GGGG	GCAAAA	TTTTC	IGGCA	A CG	GCAT	BACC	GATO	3ATTT	rgc '	TGTG	GGTAGC	1260
106 107	CCTAG	CCACC	TTAA	CACTC	CTAAC	CATC	C CT	TTGC	CGAC	CAAT	rtggr	TA.	AAAT'	TGCAGC	1320
108 109	CCAAA	AGTCT	GATT'	rcgttc	CCCTC	TATC'	r AG	AACG	GGT	GGC <i>I</i>	AAAC	CCA '	TCCA	PAGCTG	1380
110 111	GGAAT	TATTG	GGTA	CCCATC	TCGAC	TCTG	G AG	ACGT	TTG	TATT	OAATT	CA '	TGCC	CGCCAC	1440
112 113														PT TT TT	1500
114														AACGCT	1560
116 117 118														GAAATT CAGCGG	1620 1680
119 120														GGTTCC	1740
121 122														TCGGC	1800
123 124	TAACT	cccc	ATTT	TAGGC	TAAAA	'CATA'	r ac	AGACT	TATC	CCA	TATI	rgc (CAGA	CTTTG	1860
125 126	ATGAC	TCACT	GTAG	AAGGCA	GACTA	AAAT'	г стл	AGCA!	ATGG	ACTO	CCAC	TT (GGAA	ТАААТТ	1920
127 128	TTTAG	TCTCC	CCCG	CGCTG	GAGTT	TTTT	г ст	AGTT	ATG	GCGC	TAT	AT (GTGA	AAGTTT	1980
129 130 131 132 133	ТТТАТ	СТАТТ	TAAA	ATATT		Leu									2031
134 135 136 137				TTT C Phe A 15											2079
138 139 140 141				GGC C											2127
142 143 144 145			ı Ile	ATT G Ile V											2175
146 147 148 149	Leu P			GTT A Val I		Pro									2223
150 151 152				TTG G Leu A											2271

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152														II	VPUT	SET: S	24406.raw
153 154 155 156						TCC Ser											2319
157 158					ттт	GTC				AGT					TAT		2367
159 160 161	Met	Tnr	Tyr	110	Pne	Val	GTÀ	Leu	Ser 115	Ser	Pne	Leu	Trp	120	Tyr	Arg	
162 163 164 165						CAC His											2415
166 167 168						GGC Gly											2463
169 170 171 172						TTC Phe 160											2511
173 174 175 176						TGG Trp											2559
177 178 179 180						GAC Asp											2607
181 182 183 184						ggg Gly											2655
185 186 187 188 189						CTG Leu											2703
190 191 192 193						ATG Met 240											2751
194 195 196 197						TTG Leu											2799
198 199 200						GAT Asp											2847
201 202 203 204 205						ACC Thr											2895

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RAW SEQUENCE LISTING PATENT APPLICATION US/08/934,254

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	INPUT SET: S244	06.raw
206	GGT TTA AAT CAC CAA GTT ACC CAC CAT CTT TTC CCC AAT ATT TGT CAT	2943
207	Gly Leu Asn His Gln Val Thr His His Leu Phe Pro Asn Ile Cys His	
208	300 305 310	
209	200	
210	ATT CAC TAT CCC CAA TTG GAA AAT ATT ATT AAG GAT GTT TGC CAA GAG	2991
		2771
211	Ile His Tyr Pro Gln Leu Glu Asn Ile Ile Lys Asp Val Cys Gln Glu	
212	315 320 325 330	
213		
214	TTT GGT GTG GAA TAT AAA GTT TAT CCC ACC TTC AAA GCG GCG ATC GCC	3039
215	Phe Gly Val Glu Tyr Lys Val Tyr Pro Thr Phe Lys Ala Ala Ile Ala	
216	335 340 345	
217		
218	TCT AAC TAT CGC TGG CTA GAG GCC ATG GGC AAA GCA TCG TGACATTGCC	3088
219	Ser Asn Tyr Arg Trp Leu Glu Ala Met Gly Lys Ala Ser	
220	350 355	
	330	
221	THE GOLD THE CONTROL OF THE CONTROL	2140
222	TTGGGATTGA AGCAAAATGG CAAAATCCCT CGTAAATCTA TGATCGAAGC CTTTCTGTTG	3148
223		
224	CCCGCCGACC AAATCCCCGA TGCTGACCAA AGGTTGATGT TGGCATTGCT CCAAACCCAC	3208
225		
226	TTTGAGGGGG TTCATTGGCC GCAGTTTCAA GCTGACCTAG GAGGCAAAGA TTGGGTGATT	3268
227		
228	TTGCTCAAAT CCGCTGGGAT ATTGAAAGGC TTCACCACCT TTGGTTTCTA CCCTGCTCAA	3328
229		
230	TGGGAAGGAC AAACCGTCAG AATTGTTTAT TCTGGTGACA CCATCACCGA CCCATCCATG	3388
231	1000AROORO AMMOOOTORO IMITTOTTIINI TOTOOTORO OOTTOTTOTTO	
232	TGGTCTAACC CAGCCCTGGC CAAGGCTTGG ACCAAGGCCA TGCAAATTCT CCACGAGGCT	3448
	IGGICIAACC CAGCCCIGGC CAAGGCCIGG ACCAAGGCCA IGCAAATICI CCACGAGGCI	2440
233	THE STATE OF THE S	2500
234	AGGCCAGAAA AATTATATTG GCTCCTGATT TCTTCCGGCT ATCGCACCTA CCGATTTTTG	3508
235		
236	AGCATTTTTG CCAAGGAATT CTATCCCCAC TATCTCCATC CCACTCCCCC GCCTGTACAA	3568
237		
238	AATTTTATCC ATCAGCTAGC	3588
239		
240		
241	(2) INFORMATION FOR SEQ ID NO:2:	
242	(-, -, -, -, -, -, -, -, -, -, -, -, -, -	
243	(i) SEQUENCE CHARACTERISTICS:	
243	(1) phoppion characterists.	
	(A) DENOMU. 250 omino ocido	
245	(A) LENGTH: 359 amino acids	
246	(B) TYPE: amino acid	
247	(D) TOPOLOGY: linear	
248		
249	(ii) MOLECULE TYPE: protein	
250		
251	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:	
252		
253	Met Leu Thr Ala Glu Arg Ile Lys Phe Thr Gln Lys Arg Gly Phe Arg	
254	1 5 10 15	
255	1 10 13	
	and the Tour and Olm and the American Discountry of the Cluster of the Con-	
256	Arg Val Leu Asn Gln Arg Val Asp Ala Tyr Phe Ala Glu His Gly Leu	
257	20 25 30	

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***** PREVIOUSLY ERRORED SEQUENCES - EDITED *****

878	(2)	INF	ORMA'	TION	FOR	SEQ	ID :	NO:2	5 :									
879																		
880 881		(1) SE	QUEN	CE C	HARA	CTER	ISTI	CS:									
882			t.	A) L	ENGT	H: 5	ami	no a	cids									
883					YPE:													
884			(1	D) T	OPOL	OGY:	lin	ear										
885																		
886		(ii) MO	LECU!	LE T	YPE:	Pep	tide										
887 888		/	\ CE	OLIEM	ות שם	ecan.	TDOT	037.	CEO .	TD 37	0.25							
889		(XI) DE	ŽOEM.	CE DI	ESCR.	LPTI	ON:	SEQ.	יא עז	0:25	•						
890		His	s Vai	l Pro	o Hi:	s Hi:	s											
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1045	(2)	TNE	יאשםר	PTON	FOR	SEO	TD.	NO · 2	7 •								 	
1046	(2)	TME	JIMA	IION	FOR	SEQ	10		<i>,</i> .									
1047			(i)	SEOU	ENCE	CHA	RACT	ERIS'	rics	:								
1048	•		` ') LEI						s							
1049				(B) TYI	PE: a	amin	o ac	iđ									
1050				(D) ТОІ	POLO	GY:	line	ar									
1051																		
1052		(:	ii) l	MOLE	CULE	TYP	E: p	rote	in									
1053				~=~					~-									
1054		()	X1) :	SEQUI	ENCE	DES	CKTP.	LTON	: SE	5 TD	NO:	27:						
1055 1056	Mot	Glu.	al v	alu.	λla	T we	Twe	ጥ፣ታም	т1д	Thr	λla	Glu	λen	T 011	λτα	λrα		
1057	1	GIG	GLY	GIU	5	цуз	цуз	ıyı	TTE	10	ALG	GIU	АЗР	пеп	15	ALG		
1058	_				J													
1059	His	Asn	Lys	Ser	Gly	Asp	Leu	Trp	Ile	Ser	Ile	Gln	Gly	Lys	Val	Tyr		
1060			•	20	•	-		-	25				•	30		•		
1061																		
1062	Asp	Cys	Ser	Arg	Trp	Ala	Ala	Glu	His	Pro	Gly	Gly	Glu	Val	Pro	Leu		
1063			35					40					45					
1064	_	_	_				_		•									
1065	Leu		Leu	Ala	Gly	Gln	_	Val	Thr	Asp	Ala	Phe	Ile	Ala	Tyr	His		
1066		50					55					60						
1067 1068	Bro	C1 **	шhх	λla	шхх	λrα	Uic	T 011	λαν	Dro	T 011	Dho	mh r	را بر ا	Tree	Птт		
1069	65	эту	1111	АТО	тър	70	urs	Tea	wab	710	75	Phe	1111	сту	тУT	80		
1070	0.5					, 0					, ,					30		
1071	Tvr	Leu	Lvs	Asp	Phe	Glu	Val	Ser	Glu	Ile	Ser	Lys	Asp	Tvr	Ara	Ara		
1072	- 4 -		-1-	-	85	-		-		90	-	-1-			95	3		
1073																		
1074	Leu	Leu	Asn	Glu	Met	Ser	Arg	Ser	Gly	Ile	Phe	Glu	Lys	Lys	Gly	His		

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1075				100					105					110		
1076								_	_					_	_	_
1077	His	Ile	Met	Trp	Thr	Phe	Val	_	Val	Ala	Val	Met		Ala	Ala	Ile
1078			115					120					125			
1079		_		-	_										_	_
1080	Val	_	Gly	Val	Leu	Ala		Glu	Ser	Val	Gly		His	Met	Leu	Cys
1081		130					135					140				
1082			_	_		_	_	_								1
1083	_	Ala	Leu	Leu	GTÀ		Leu	Trp	Ile	GIn		Ala	Tyr	Val	GTÀ	
1084	145					150					155	,				160
1085	_	_			_				_	_,	_		_	_	_	-1
1086	Asp	Ser	Gly	His	_	GIn	val	мет	Pro		Arg	GTÄ	тyr	Asn	_	IIe
1087					165					170					175	
1088	m1	41.	•	- 1 -	.1.	a 3		- 1 -	.	m1	a 1	-1 -	~	- 1-		Шель
1089	Thr	GIN	Leu		АТа	GIA	ASN	тте		Thr	GTA	тте	Ser		ATS	Trp
1090				180					185					190		
1091				en1	••1	•		•••	•••	.		~		~	*	3
1092	Trp	ьуs	Trp	Thr	HIS	ASN	АТа		HIS	Leu	Ата	cys		ser	Leu	Asp
1093			195					200					205			
1094	M	3	D	3	T	~ 1 -	TT4	T1.	D=0	17-7	Dh.		777		mb	1
1095	Tyr	_	Pro	ASP	Leu	GIN		тте	PIO	vaı	Pne		vaı	ser	Thr	Arg
1096		210					215					220				
1097	.	D1	.		-1 -	ml		**- 7	nh -	m	a 1	1	**- 7	T	*	Dh.a
1098		Pne	Asn	ser	тте		Ser	vaı	Pne	Tyr	_	Arg	val	Leu	гÀг	
1099	225					230					235					240
1100	3	41	17.3		3	Dha	T		C		71 n	ui a	П	mb =	Ш	П
1101	ASP	GIU	Val	АТа	_	Pne	Leu	vaı	ser	250	GIN	HIS	тгр	THE	255	туг
1102					245					250					255	
1103 1104	Dro	17.01	Met	т1.	Dho	al	A ra	17.3.1	Acn	T 011	Dho	т1.	al n	⊞h.∽	Bho	Tou
1104	PIO	vaı	Mec	260	File	СТУ	Arg	vaı	265	Leu	FILE	TTE	GIII	270	FIIE	Leu
1105				200					203					270		
1107	T.011	T.011	Leu	Thr	Δra	Δra	Δen	Val	Pro	Agn	Δrα	λla	T.e.11	Δen	T.e.11	Met
1107	пеа	пец	275	1111	Arg	Arg	ASP	280	110	АЗР	nr 9	AIG	285	ADII	ncu	no c
1109			2,3					200					200			
1110	Glv	Tle	Ala	Val	Phe	Tro	Thr	Trp	Phe	Pro	Leu	Phe	Val	Ser	Cvs	Leu
1111		290					295					300			-1-	
1112																
1113	Pro	Asn	Trp	Pro	Glu	Ara	Phe	Glv	Phe	Val	Leu	Ile	Ser	Phe	Ala	Val
1114	305					310		1			315					320
1115																
1116	Thr	Ala	Ile	Gln	His	Val	Gln	Phe	Thr	Leu	Asn	His	Phe	Ser	Glv	Asp
1117					325					330					335	•
1118																
1119	Thr	Tvr	Val	Glv	Pro	Pro	Lvs	Glv	Asp	Asn	Trp	Phe	Glu	Lvs	Gln	Thr
1120		-		340			4	•	345		•			350		
1121																
1122	Lvs	Glv	Thr	Ile	Asp	Ile	Thr	Cvs	Pro	Pro	Trp	Met	Asp	Trp	Phe	Phe
1123	_1 _	-3	355		- 1			360			- 1		365	-		
1124								-								
1125	Gly	Gly	Leu	Gln	Phe	Gln	Leu	Glu	His	His	Leu	Phe	Pro	Arg	Leu	Pro
1126	-2	370					375					380		,		
1127																

PAGE: 8	3
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1128 1129	Arg 385	Gly	Gln	Leu	Arg	Lys 390	Ile	Ala	Pro	Leu	Ala 395	Arg	Asp				S2440	б.raw	
1130 1131 1132	Lys	His	Gly	Met	Pro 405	Tyr	Arg	Ser	Phe	Gly 410	Phe	Trp	Asp	Asp	Ala 415				
1133 1134 1135	Val	Arg	Thr	Ile 420	Arg	Thr	Leu	Arg	Asp 425	Ala	Ala	Val	Gln	Ala 430	Arg	Asp			
1136 1137 1138 1139	Leu	Asn	Ser 435	Ala	Pro	Cys	Pro	Lys 440	Lys	Leu	Gly	Tyr	Gly 445	Glu	Ala	Tyr			
1140 1141 1142	Asn	Thr 450	His	Gly															

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